Arbor Options, LLC
Tree Consultants

Memorandum

To: Scott Pirrie
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Site: 2203 NW 63rd Street & 6211 22nd Avenue NW Seattle, WA 98107

From: Ryan Ringe, Arbor Options Tree Consultants

Date: 6/20/17

Subject: Tree Inventory and Protection Memo

Contents

Summary

Date of Site Visit: 9/29/17

Of Significant Trees on Property: 3

Of **Exceptional** Trees on Property: 0

Of Encroaching Significant Adjacent Property Trees: 10

Of Encroaching **Exceptional** Adjacent Property Trees: 10 (Trees # D-M)

Of Significant R.O.W (Right-of-Way) Trees: 3

All *significant trees* on the subject property and R.O.W. were identified, measured for diameter at breast height (*DBH*) and drip line radius, evaluated for condition, and classified as Exceptional or Non-Exceptional according to Seattle DPD Director's Rule 16-2008. Each significant tree located on adjacent properties encroaching the subject property were identified, measured for diameter at breast height (*DBH*) and drip line radius, evaluated for condition, and classified as Exceptional or Non-Exceptional according to Seattle DPD Director's Rule 16-2008

There were three (3) significant trees located on the subject property, none (0) of which were Exceptional. There were three (3) significant R.O.W. trees. There were ten (10) encroaching Exceptional adjacent property trees (Trees #D-L located adjacent to 2203 NW 63rd Street are Exceptional due to their location in Grove-A, and Tree #M located adjacent to 6211 22nd Avenue NW is Exceptional due to size).

A Tree Protection Plan was created for Exceptional Adjacent Property Trees #D-M

Note: Because of the potential disturbances to the trees' roots, supervision is required by a certified arborist during excavation within Tree #'s D, K, L, & M's drip line by an arborist well versed in tree and root protection during construction.

Trees #D-H, J, & M might require some minor clearance pruning.

Assignment & Scope of Report

This report outlines the site inspections by Ryan Ringe of Arbor Options Tree Consultants, on September 29, 2016. I was asked by Hana Schooley of Cone Architecture to identify, measure, and evaluate the condition of all significant and exceptional trees located on the subject property and R.O.W. at 2203 NW 63rd Street & 6211 22nd Avenue NW in Seattle, WA I was also to evaluate all adjacent significant trees encroaching on the subject property. A Tree Protection Plan was to be created for any Exceptional trees proposed for preservation.

Limits of Assignment

Unless stated otherwise: 1) information contained in this report covers only those trees that were examined and reflects the condition of those trees at the time of inspection; and 2) the inspection is limited to visual examination of the subject trees without dissection, excavation, probing, climbing, or coring unless explicitly specified.

There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future. Additional Assumptions and limiting conditions can be found in Appendix C & D.

Methods

To evaluate the trees and to prepare the report, I drew upon my 15+ years of experience in the field of forestry, site management, and arboriculture and my formal education in plant biology, plant identification, and plant physiology. I also followed the protocol of the International Society of Arboriculture (ISA) for Visual Tree Assessment (VTA) that includes looking at the overall health of the tree as well as the site conditions. This is a scientifically based process to look at the entire site, surrounding landscape and soil, as well as a complete look at the trees themselves.

In examining the trees, I looked at such factors as: size, vigor, canopy and foliage condition, density of leaves, injury, insect activity, root damage and root collar health, crown health, evidence of disease-causing bacteria, fungi or virus, dead wood and hanging limbs.

City of Seattle Rules (Director's Rule 16-2008)

Size Thresholds

Trees with a diameter at breast height (DBH), defined in this rule, that is equal to or greater than the threshold diameters listed in Seattle DPD Director's Rule 16-2008, Table 1 are considered exceptional unless they fail to meet the risk criteria discussed in Director's Rule 16-2008. For all species not listed in Table 1, the threshold diameter is 30" or 75% of the largest documented diameter for a tree of that species in Seattle, whichever is less, as noted in Trees of Seattle, 2nd edition by Arthur Lee Jacobson. If no tree diameter or circumference is listed in this source, the threshold diameter is 30" or 65% of the largest documented diameter for a tree of that species in Washington, whichever is less, as noted in Champion Trees of Washington State by Robert Van Pelt.

Tree Grove

A grove means a group of 8 or more trees 12" in diameter or greater that form a continuous canopy. Trees that are part of a grove shall also be considered exceptional unless they fail to meet the risk criteria discussed in Director's Rule 16-2008. Trees that are less than 12" in diameter that are part of a grove's continuous canopy cannot be removed if their removal may

damage the health of the grove. Street trees shall not be included in determining whether a group of trees is a grove.

Measurement of Tree Diameter

Diameter at Breast Height (DBH), which means the diameter of a tree trunk measured at 4.5 feet above average grade, is used in determining the diameter of existing trees. Where a tree has a branch(es) or swelling that interferes with measurement at 4.5 feet above average grade or where a tree tapers below this point, the diameter is measured at the most narrow point below 4.5 feet. For trees located on a slope, the 4.5 feet is measured from the average of the highest and lowest ground points or, on very steep slopes where this is not possible, the lowest practical point on the uphill side. Where a tree splits into several trunks close to ground level, the DBH for the tree is the square root of the sum of the DBH for each individual stem squared (example with 3 stems: DBH = square root [(stem1)2 +(stem2)2 +(stem3)2]).

Observations

2203 NW 63rd Street

ROW Significant Trees

Tree #A: 12.0" DBH Paper Birch, *Betula papyrifera*, Good/ Fair condition, 21 ft. drip line radius (Non-Exceptional Tree)

Tree #B: 14.8" DBH Paper Birch, *Betula papyrifera*, Good condition, 23 ft. drip line radius (Non-Exceptional Tree)

Tree #C: 7.4" DBH Paper Birch, *Betula papyrifera*, Good condition, 19 ft. drip line radius (Non-Exceptional Tree)

Subject Property Significant Trees

None

Encroaching Adjacent Neighbor's Exceptional Trees

Note: Trees # D-L comprise Exceptional Grove-A, and adjacent property tree DBH values are close approximations, to avoid trespass.

Tree #D: approx. 20" DBH Leyland Cypress, *Cupressus x leylandii*, Fair condition, 20 ft. drip line radius (**Exceptional Tree due to location in Grove-A**)

Tree #E: approx. 14" DBH Leyland Cypress, *Cupressus x leylandii*, Fair condition, 20 ft. drip line radius (**Exceptional Tree due to location in Grove-A**)

Tree #F: approx. 14" DBH Leyland Cypress, *Cupressus x leylandii*, Fair condition, 20 ft. drip line radius (**Exceptional Tree due to location in Grove-A**)

Tree #G: approx. 14" DBH Leyland Cypress, *Cupressus x leylandii*, Fair condition, 20 ft. drip line radius (**Exceptional Tree due to location in Grove-A**)

Tree #H: approx. 15" DBH Leyland Cypress, *Cupressus x leylandii*, Fair condition, 22 ft. drip line radius (**Exceptional Tree due to location in Grove-A**)

Tree #I: approx. 13" DBH Leyland Cypress, *Cupressus x leylandii*, Fair condition, 16 ft. drip line radius (**Exceptional Tree due to location in Grove-A**)

Tree #J: approx. 13" DBH Leyland Cypress, *Cupressus x leylandii*, Fair condition, 20 ft. drip line radius (**Exceptional Tree due to location in Grove-A**)

Tree #K: approx. 15" DBH Leyland Cypress, *Cupressus x leylandii*, Fair condition, 20 ft. drip line radius (**Exceptional Tree due to location in Grove-A**)

Tree #L: approx. 21" DBH Leyland Cypress, *Cupressus x leylandii*, Fair condition, 22 ft. drip line radius (**Exceptional Tree due to location in Grove-A**)

6211 22nd Ave NW

ROW Significant Trees

None

Subject Property Significant Trees

Tree #1: 7.2" DBH Common Plum, *Prunus domestica*, Good condition, 15 ft. drip line radius (Non-Exceptional Tree)

Tree #2: 8.5" DBH Common Plum, *Prunus domestica*, Good/ Fair condition, 12 ft. drip line radius (Non-Exceptional Tree)

Tree #3: 6.6" DBH Common Plum, *Prunus domestica*, Good/ Fair condition, 12 ft. drip line radius (Non-Exceptional Tree)

Encroaching Adjacent Neighbor's Exceptional Trees

Note: Adjacent property tree DBH values are close approximations, to avoid trespass.

Tree #M: approx. 17" Common Hawthorn, *Crataegus monogyna*, Good/ Fair condition, 17 ft. drip line radius **(Exceptional Tree due to size)**

Tree Protection Plan

Note: Refer to Appendix A – Tree Location Map for location of trees, Appendix B – Site Plan for location of proposed disturbances.

Trees #D- L are a row of Leyland Cypress trees, all approximately 70 ft. tall and in fair condition. Most have multiple stems in the upper canopy, and all have been side trimmed to approx. 2/3 tree height on the east (subject property) side. Many have pruning flush cuts from removal of stems.

Tree #D: approx. 20" DBH Leyland Cypress, *Cupressus x leylandii*, Fair condition, 20 ft. drip line radius (**Exceptional Tree due to location in Grove-A**)

Proposed Development Impacts

Proposed development within the drip line of Tree #D include installation of the building foundation located 19 ft. away from center of tree (approx. 16 ft. away from excavation). The proposed excavation encroaches 4 ft. into the tree's dripline radius.

This amount of disturbance is acceptable, ***as long as a certified arborist supervises all excavation within the drip line, and performs the proper root pruning***.

A certified arborist is required during any excavation within the tree's dripline; the arborist will properly root prune the tree's roots, ensuring that they are not torn or damaged. If the roots are severed cleanly without damage and kept moist until back-fill then any disturbed roots have a very good probability of re-growing and the tree can remain healthy.

No disturbances are allowed within 16 ft. from center of tree.

Tree Maintenance

Wood chips/ chip mulch may be added to the ground under the drip line to a 6-8 in. depth, in as big an area as possible (taking care to pull chips 6 in. to 1 ft. away from trunk).

Minimal tree building clearance pruning may be required. The proposed roof parapet height is 33.5 ft., and the lowest branches overhanging the subject property is located at approx. 35-45 ft. The branches will overhang the roof parapet by a horizontal distance of approximately 1 ft.

If required, a certified arborist should supervise or perform the work in accordance with ANSI A300 pruning standards, and work shall be performed in accordance with ANSI Z133.1 safety standards. Pruning shall be in accordance with ISA's *Best Management Practices: Tree Pruning*. Pruning should be done in the dormant season (November-February) to limit impact to the tree.

Tree #E: approx. 14" DBH Leyland Cypress, *Cupressus x leylandii*, Fair condition, 20 ft. drip line radius (**Exceptional Tree due to location in Grove-A**)

Proposed Development Impacts

Proposed development within the drip line of Tree #E include installation of the building foundation located 18.5 ft. away from center of tree (approx. 15.5 ft. away from excavation). The proposed excavation encroaches 4.5 ft. into the tree's dripline radius, but is still outside 1 ft. for every inch of DBH.

This amount of disturbance is acceptable.

No disturbances are allowed within 15.5 ft. from center of tree.

Tree Maintenance

Wood chips/ chip mulch may be added to the ground under the drip line to a 6-8 in. depth, in as big an area as possible (taking care to pull chips 6 in. to 1 ft. away from trunk).

Minimal tree building clearance pruning may be required. The proposed roof parapet height is 33.5 ft., and the lowest branches overhanging the subject property is located at approx. 35-45 ft. The branches will overhang the roof parapet by a horizontal distance of approximately 1.5 ft.

If required, a certified arborist should supervise or perform the work in accordance with ANSI A300 pruning standards, and work shall be performed in accordance with ANSI Z133.1 safety standards. Pruning shall be in accordance with ISA's *Best Management Practices: Tree Pruning*. Pruning should be done in the dormant season (November-February) to limit impact to the tree.

Tree #F: approx. 14" DBH Leyland Cypress, *Cupressus x leylandii*, Fair condition, 20 ft. drip line radius (**Exceptional Tree due to location in Grove-A**)

Proposed Development Impacts

Proposed development within the drip line of Tree #F include installation of the building foundation located 18.5 ft. away from center of tree (approx. 15.5 ft. away from excavation). The proposed excavation encroaches 4.5 ft. into the tree's dripline radius, but is still outside 1 ft. for every inch of DBH.

This amount of disturbance is acceptable.

No disturbances are allowed within 15.5 ft. from center of tree.

Tree Maintenance

Wood chips/ chip mulch may be added to the ground under the drip line to a 6-8 in. depth, in as big an area as possible (taking care to pull chips 6 in. to 1 ft. away from trunk).

Minimal tree building clearance pruning may be required. The proposed roof parapet height is 33.5 ft., and the lowest branches overhanging the subject property is located at approx. 35-45 ft. The branches will overhang the roof parapet by a horizontal distance of approximately 1.5 ft.

If required, a certified arborist should supervise or perform the work in accordance with ANSI A300 pruning standards, and work shall be performed in accordance with ANSI Z133.1 safety standards. Pruning shall be in accordance with ISA's *Best Management Practices: Tree Pruning*. Pruning should be done in the dormant season (November-February) to limit impact to the tree.

Tree #G: approx. 14" DBH Leyland Cypress, *Cupressus x leylandii*, Fair condition, 20 ft. drip line radius (**Exceptional Tree due to location in Grove-A**)

Proposed Development Impacts

Proposed development within the drip line of Tree #G include installation of the building foundation located 19 ft. away from center of tree (approx. 16 ft. away from excavation). The proposed excavation encroaches 4 ft. into the tree's dripline radius, but is still outside 1 ft. for every inch of DBH.

This amount of disturbance is acceptable.

No disturbances are allowed within 16 ft. from center of tree.

Tree Maintenance

Wood chips/ chip mulch may be added to the ground under the drip line to a 6-8 in. depth, in as big an area as possible (taking care to pull chips 6 in. to 1 ft. away from trunk).

Minimal tree building clearance pruning may be required. The proposed roof parapet height is 33.5 ft., and the lowest branches overhanging the subject property is located at approx. 35-45 ft. The branches will overhang the roof parapet by a horizontal distance of approximately 1.5 ft.

If required, a certified arborist should supervise or perform the work in accordance with ANSI A300 pruning standards, and work shall be performed in accordance with ANSI Z133.1 safety standards. Pruning shall be in accordance with ISA's *Best Management Practices: Tree Pruning*. Pruning should be done in the dormant season (November-February) to limit impact to the tree.

Tree #H: approx. 15" DBH Leyland Cypress, *Cupressus x leylandii*, Fair condition, 22 ft. drip line radius (**Exceptional Tree due to location in Grove-A**)

Proposed Development Impacts

Proposed development within the drip line of Tree #H include installation of the building foundation located 18.5 ft. away from center of tree (approx. 15.5 ft. away from excavation), and installation of the paved parking lot located 13.5 ft. from center of tree (13 ft. from approx. 6-8 in. depth of excavation). The proposed excavation encroaches 6.5 ft. into the tree's dripline radius. The existing garage with foundation to the east of the tree is a barrier to the tree roots, so no roots from Tree #H should be affected by the proposed pavement excavation.

This amount of disturbance is acceptable.

No disturbances are allowed within 13.5 ft. from center of tree.

Tree Maintenance

Wood chips/ chip mulch may be added to the ground under the drip line to a 6-8 in. depth, in as big an area as possible (taking care to pull chips 6 in. to 1 ft. away from trunk).

Minimal tree building clearance pruning may be required. The proposed roof parapet height is 33.5 ft., and the lowest branches overhanging the subject property is located at approx. 35-45 ft. The branches will overhang the roof parapet by a horizontal distance of approximately 3.5 ft.

If required, a certified arborist should supervise or perform the work in accordance with ANSI A300 pruning standards, and work shall be performed in accordance with ANSI Z133.1 safety standards. Pruning shall be in accordance with ISA's *Best Management Practices: Tree Pruning*. Pruning should be done in the dormant season (November-February) to limit impact to the tree.

Tree #I: approx. 13" DBH Leyland Cypress, *Cupressus x leylandii*, Fair condition, 16 ft. drip line radius (**Exceptional Tree due to location in Grove-A**)

Proposed Development Impacts

Proposed development within the drip line of Tree #I include installation of the building foundation located 19 ft. away from center of tree (approx. 16 ft. away from excavation), and installation of the paved parking lot located 13 ft. from center of tree (12.5 ft. from approx. 6-88 in. depth of excavation). The proposed excavation encroaches 3.5 ft. into the tree's dripline radius. The existing garage with foundation to the east of the tree is a barrier to the tree roots, so no roots from Tree #I should be affected by the proposed pavement excavation.

This amount of disturbance is acceptable.

No disturbances are allowed within 12.5 ft. from center of tree.

Tree Maintenance

Wood chips/ chip mulch may be added to the ground under the drip line to a 6-8 in. depth, in as big an area as possible (taking care to pull chips 6 in. to 1 ft. away from trunk).

Building clearance pruning is not required, as the branches are at least 3 ft. away from the proposed building.

Tree #J: approx. 13" DBH Leyland Cypress, *Cupressus x leylandii*, Fair condition, 20 ft. drip line radius (**Exceptional Tree due to location in Grove-A**)

Proposed Development Impacts

Proposed development within the drip line of Tree #J include installation of the building foundation corner located 18 ft. away from center of tree (approx. 15 ft. away from excavation), and installation of the paved parking lot located 11.5 ft. from center of tree (11 ft. from approx. 6-8 in. depth of excavation). The proposed excavation encroaches 9 ft. into the tree's dripline radius. The existing garage with foundation to the east of the tree is a barrier to the tree roots, so no roots from Tree #H should be affected by the proposed pavement excavation.

This amount of disturbance is acceptable.

No disturbances are allowed within 11 ft. from center of tree.

Tree Maintenance

Wood chips/ chip mulch may be added to the ground under the drip line to a 6-8 in. depth, in as big an area as possible (taking care to pull chips 6 in. to 1 ft. away from trunk).

Minimal tree building clearance pruning may be required. The proposed roof parapet height is 33.5 ft., and the lowest branches overhanging the subject property is located at approx. 35-45 ft. The branches will overhang the roof parapet by a horizontal distance of approximately 2.5 ft.

If required, a certified arborist should supervise or perform the work in accordance with ANSI A300 pruning standards, and work shall be performed in accordance with ANSI Z133.1 safety standards. Pruning shall be in accordance with ISA's *Best Management Practices: Tree Pruning*. Pruning should be done in the dormant season (November-February) to limit impact to the tree.

Tree #K: approx. 15" DBH Leyland Cypress, *Cupressus x leylandii*, Fair condition, 20 ft. drip line radius (**Exceptional Tree due to location in Grove-A**)

Proposed Development Impacts

Proposed development within the drip line of Tree #K include installation of the paved parking lot located 10.5 ft. from center of tree (10 ft. from approx. 6-8 in. depth of excavation). The proposed excavation encroaches 10 ft. into the tree's dripline radius. The existing garage with foundation to the east of the tree is a barrier to the tree roots, although there is 2 ft. space between existing garage foundation located 7 ft. south of Tree #K.

This amount of disturbance is acceptable, ***as long as a certified arborist supervises all excavation within the drip line, and performs the proper root pruning***.

A certified arborist is required during any excavation within the tree's dripline; the arborist will properly root prune the tree's roots, ensuring that they are not torn or damaged. If the roots are severed cleanly without damage and kept moist until back-fill then any disturbed roots have a very good probability of re-growing and the tree can remain healthy.

No disturbances are allowed within 10 ft. from center of tree.

Tree Maintenance

Wood chips/ chip mulch may be added to the ground under the drip line to a 6-8 in. depth, in as big an area as possible (taking care to pull chips 6 in. to 1 ft. away from trunk).

Minimal tree building clearance pruning may be required. The proposed roof parapet height is 33.5 ft., and the lowest branches overhanging the subject property is located at approx. 35-45 ft. The branches will overhang the roof parapet by a horizontal distance of approximately .5 ft.

If required, a certified arborist should supervise or perform the work in accordance with ANSI A300 pruning standards, and work shall be performed in accordance with ANSI Z133.1 safety standards. Pruning shall be in accordance with ISA's *Best Management Practices: Tree Pruning*. Pruning should be done in the dormant season (November-February) to limit impact to the tree.

Tree #L: approx. 21" DBH Leyland Cypress, *Cupressus x leylandii*, Fair condition, 22 ft. drip line radius (**Exceptional Tree due to location in Grove-A**)

Proposed Development Impacts

Proposed development within the drip line of Tree #L include installation of the paved parking lot located 11.5 ft. from center of tree (11 ft. from approx. 6-8 in. depth of excavation). The proposed excavation encroaches 11 ft. into the tree's dripline radius. The existing garage with foundation to the east of the tree is a barrier to the tree roots, although there is 2 ft. space between existing garage foundation located due east of Tree #L.

This amount of disturbance is acceptable, ***as long as a certified arborist supervises all excavation within the drip line, and performs the proper root pruning***.

A certified arborist is required during any excavation within the tree's dripline; the arborist will properly root prune the tree's roots, ensuring that they are not torn or damaged. If the roots are severed cleanly without damage and kept moist until back-fill then any disturbed roots have a very good probability of re-growing and the tree can remain healthy.

No disturbances are allowed within 11 ft. from center of tree.

Tree Maintenance

Wood chips/ chip mulch may be added to the ground under the drip line to a 6-8 in. depth, in as big an area as possible (taking care to pull chips 6 in. to 1 ft. away from trunk).

Building clearance pruning is not required.

Tree #M: approx. 17" Common Hawthorn, *Crataegus monogyna*, Good/ Fair condition, 17 ft. drip line radius **(Exceptional Tree due to size)**

Tree #M has healthy foliage, and has multiple stems in the upper canopy. The branches overhang the subject property by approximately 6 ft., and the lowest small branches (largest are 1 in. diameter) are at 6 ft. height.

Proposed Development Impacts

Proposed development within the drip line of Tree #M include installation of the paved parking lot located 9 ft. from center of tree (8.5 ft. from approx. 6-8 in. depth of excavation). The proposed excavation encroaches 8.5 ft. into the tree's dripline radius.

This amount of disturbance is acceptable, ***as long as a certified arborist supervises all excavation within the drip line, and performs the proper root pruning***.

A certified arborist is required during any excavation within the tree's dripline; the arborist will properly root prune the tree's roots, ensuring that they are not torn or damaged. If the roots are severed cleanly without damage and kept moist until back-fill then any disturbed roots have a very good probability of re-growing and the tree can remain healthy.

No disturbances are allowed within 8.5 ft. from center of tree.

Tree Maintenance

Wood chips/ chip mulch may be added to the ground under the drip line to a 6-8 in. depth, in as big an area as possible (taking care to pull chips 6 in. to 1 ft. away from trunk).

Minor vertical parking lot clearance may be required; the lowest branches at 6 ft. height should be raised to a height of at least 12 ft. Only small branches require pruning (canopy raise reduction cuts).

A certified arborist should supervise or perform the work in accordance with ANSI A300 pruning standards, and work shall be performed in accordance with ANSI Z133.1 safety standards. Pruning shall be in accordance with ISA's *Best Management Practices: Tree Pruning*. Pruning should be done in the dormant season (November-February) to limit impact to the tree.

Tree Protection Guidelines

Because of the potential disturbances to the trees' roots, **supervision is required by a certified arborist during excavation within Tree #'s D, K, L, & M's drip line by an arborist well versed in tree and root protection during construction.**

Trees #D-H, J, & M might require some minor clearance pruning. A certified arborist should supervise or perform the work in accordance with ANSI A300 pruning standards, and work shall be performed in accordance with ANSI Z133.1 safety standards. Pruning shall be in accordance with ISA's *Best Management Practices: Tree Pruning*.

Prior to development activity, land clearing, filling or any land alteration, vegetated areas and individual trees to be preserved shall be protected from potentially damaging activities in a Temporary Tree Protection Zone (TPZ) pursuant to the following standards and recommendations:

- Project Arborist Supervision during excavation within drip line of Trees # D, K, L, & M
- Project Arborist to conduct a post-construction site inspection and evaluation, and inspection of temporary TPZ reduction.
- Access is to be restricted into TPZ's with 6 ft. tall minimum protective fencing. Erect and maintain readily visible temporary protective tree fencing along the limits of disturbance which completely surrounds the protected area of all retained trees or groups of trees. Install fence posts using pier block. Avoid post or stakes into major roots.
- Maintain the protective barriers in place for the duration of the project
- Weather resistant "keep out" signs shall be posted on all sides of the TPZ fencing, and construction materials and equipment are not to be stored within TPZ.
- No person may conduct any activity within the TPZ including, but not limited to, operating or parking equipment, placing solvents, storing building material or soil

deposits, or dumping concrete washout or other chemicals. During construction, no person shall attach any object to any tree designated for protection. NO Stockpiling of materials, vehicular traffic, or storage of equipment or machinery shall be allowed within the TPZ.

- Prohibit excavation or compaction of earth or other potentially damaging activities within the TPZ

- Assess crew and contractor penalties, if necessary, to keep the TPZ's intact.

- Check the integrity of TPZ fences weekly, and repair or replace as needed.

- Wood chips or other mulch may be used to spread above root zones within the drip line at a depth of 4-6 inches for temporary protection from soil compaction.

- Mycorrhizal fungi treatment/ addition to soil may be utilized to help provide increased water and nutrient absorption capabilities.

- The grade shall not be elevated or reduced within the critical root zone of trees to be preserved unless approved and performed based on the recommendations from a qualified professional. Avoid grade changes near the TPZ if possible. If the grade adjacent to a preserved tree is raised such that it could slough or erode into the tree's critical root zone, it should be permanently stabilized to prevent suffocation of the roots.

- Control soil moisture within the protected area. Prevent flooding of the soil, and protect root areas from leachate, cement, oil, fuel, and all other contaminants.

- To the greatest extent practical, utility trenches shall be located outside of the critical root zone of trees to be retained. If Trenching is required and approved within the TPZ, trenchless methods are preferred, or the trenches can be dug by hand to preserve larger roots. For roots over one inch in diameter damaged during construction, make a clean straight cut to remove damaged portion of root. Leave roots larger than two inches in diameter intact and undamaged if possible. During the time of root exposure, keep roots moist with moist soil, wet mulch, or wet burlap. Roots may be uncovered with a low pressure water flow or air spade if needed.

- Corrective pruning may be performed on protected trees in order to avoid damage from machinery or building activity

- Trees should be watered once or twice a week if construction is to take place during hot summer months. Watering requirements differ depending upon soil type, climate & weather, and tree species, age, and condition. Consult with the Project Arborist for specific watering requirements for the site and individual trees.

- Mycorrhizal treatments may be added to the soil to increase the tree root's ability to uptake water and nutrients, improving its chances of withstanding environmental stress, especially if roots have been cut or impacted within the critical root zone.

References

Seattle DPD Director's Rule 16-2008

Matheny and Clark. *Trees and Development; A Technical Guide to Preservation of Trees During Land Development*. Champaign, IL. International Society of Arboriculture. 1998

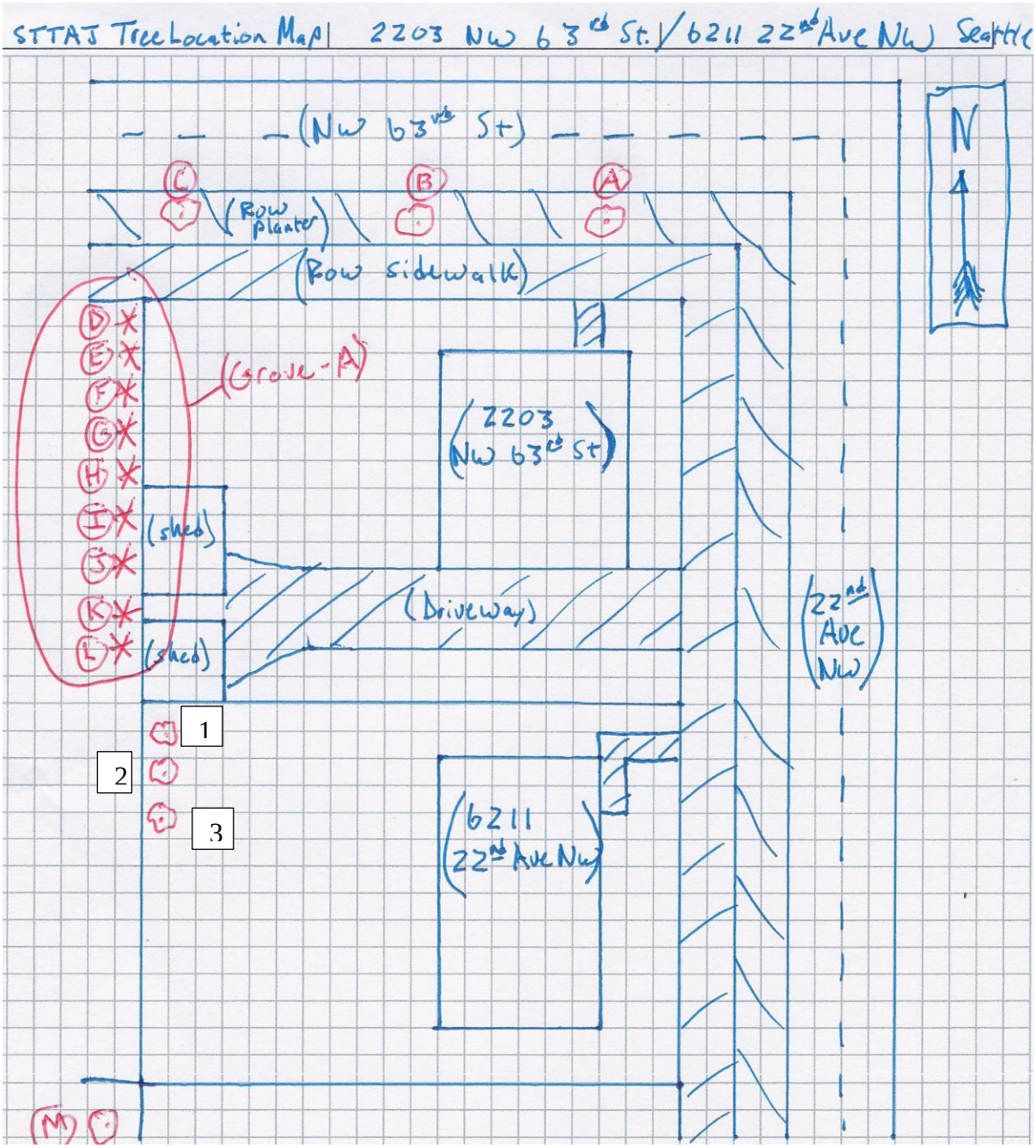
Urban, James. *Up By Roots*. Champaign, IL. International Society of Arboriculture. 2008

Ryan Ringe

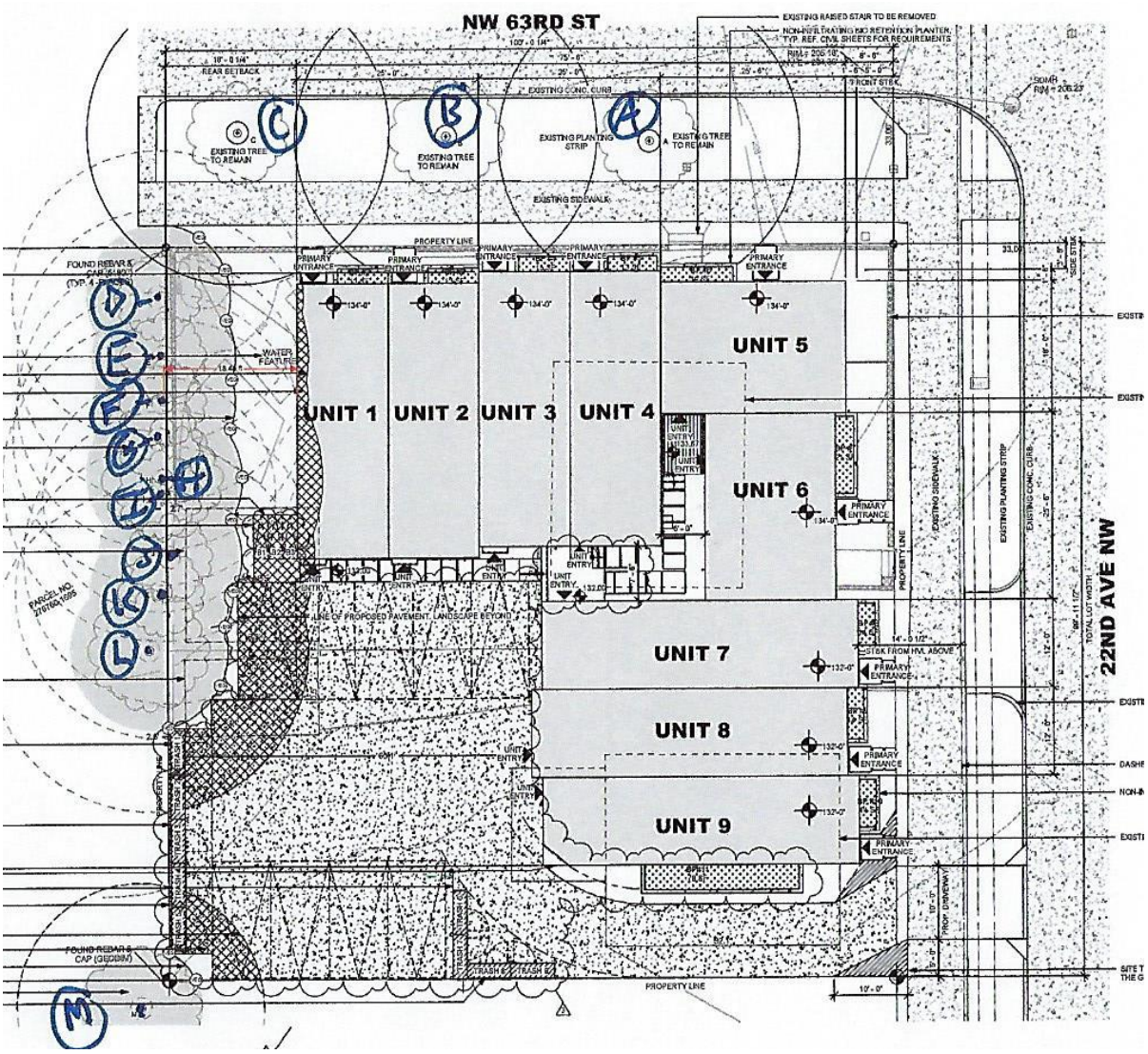
Arbor Options Tree Consultants
6/20/17

Appendix A- Tree Location Sketch

Note: Map is not to-scale, and tree locations are approximate.



Appendix B- Site Plan



Appendix C - Assumptions and Limiting Conditions

1. Consultant assumes that any legal description provided to Consultant is correct and that title to property is good and marketable. Consultant assumes no responsibility for legal matters. Consultant assumes all property appraised or evaluated is free and clear, and is under responsible ownership and competent management. Consultant assumes that the property and its use do not violate applicable codes, ordinances, statutes or regulations.

2. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant can neither guarantee nor be responsible for the accuracy of information provided by others.

3. Unless otherwise required by law, possession of any report by the consultant does not imply right of publication or use for any purpose b any person other than the person to whom it is addressed, without the prior expressed written consent of the consultant.

4. This report and any values or opinions expressed herein represent the opinion of the consultant, and the consultant's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event or upon any finding to be reported.

5. Sketches, drawings and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys unless expressed otherwise. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the expressed purpose of coordination and ease of reference only. Inclusion of said information on any drawings or other documents does not constitute a representation by the consultant as to the sufficiency or accuracy of said information.

6. Unless stated otherwise, (1) information contained in this report covers only those trees that were examined and reflects the condition of those trees at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, climbing, or coring. Consultant makes no warranty or guarantee, express or implied, that the problems or deficiencies of the plans or property in question may not arise in the future.

7. Loss or alteration of any part of this Agreement invalidates the entire report.

Appendix D – Waiver of Liability

There are many conditions affecting a tree's health and stability, which may be present and cannot be ascertained, such as, root rot, previous or unexposed construction damage, internal cracks, stem rot and more which may be hidden. Changes in circumstances and conditions can also cause a rapid deterioration of a tree's health and stability. Adverse weather conditions can dramatically affect the health and safety of a tree in a very short amount of time.

While I have used every reasonable means to examine these trees, this evaluation represents my opinion of the tree health at this point in time. These findings do not guarantee future safety nor are they predictions of future events.

The tree evaluation consists of an external visual inspection of an individual tree's root flare, trunk, and canopy from the ground only unless otherwise specified. The inspection may also consist of taking trunk or root soundings for sound comparisons to aid the evaluator in determining the possible extent of decay within a tree. Soundings are only an aid to the evaluation process and do not replace the use of other more sophisticated diagnostic tools for determining the extent of decay within a tree.

As conditions change, it is the responsibility of the property owners to schedule additional site visits by the necessary professionals to ensure that the long-term success of the project is ensured. It is the responsibility of the property owner to obtain all required permits from city, county, state, or federal agencies. It is the responsibility of the property owner to comply with all applicable laws, regulations, and permit conditions. If there is a homeowners association, it is the responsibility of the property owner to comply with all Codes, Covenants, and Restrictions (CC&R's) that apply to tree pruning and tree removal.

This tree evaluation is to be used to inform and guide the client in the management of their trees. This in no way implies that the evaluator is responsible for performing recommended actions or using other methods or tools to further determine the extent of internal tree problems without written authorization from the client. Furthermore, the evaluator in no way holds that the opinions and recommendations are the only actions required to insure that the tree will not fail. A second opinion is recommended. The client shall hold the evaluator harmless for any and all injuries or damages incurred if the tree examined fails for any reason or if the evaluator's recommendations are not followed or for acts of nature beyond the evaluator's reasonable expectations, such as severe winds, excessive rains, heavy snow loads, etc.